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which are nearly vertical to Sydney, and other parts of the colony, with a view to their future employment in the accurate determination of latitude with the zenith micrometer.

"My plans, however, for the work of the Observatory are not definitely fixed, and may be somewhat modified by the replies to letters which I have addressed to the astronomers at the Cape of Good Hope and at Santiago, with whom it is desirable that I should act in concert. I have had no means as yet of determining accurately the latitude of the Observatory.

"The longitude, as deduced from twenty-one observations of the moon and moon-culminating stars, is 10^{h} 4^{m} 49^{s}·0. This determination is, of course, unsatisfactory, owing to the defects of the transit-instrument; the amount of probable error is 3·5 seconds, and the discrepancies between the different determinations are not above one-third as great as those which occur in Mr. Rümker's determinations of the longitude of Paramatta; this superior accuracy must be attributed to the increased accuracy of the lunar tables.

"The time-ball, which was dropped daily at mean noon, is now dropped at 1 P.M., as being a more convenient hour; the contemplated arrangements for dropping it by the action of the mean-time clock have not been carried out; at present, a corrected chronometer is carried to the room in which the machinery is placed, and the ball dropped by a touch of the finger.

"The time thus indicated may be considered correct within half a second, except in case of a succession of cloudy nights rendering observations impossible, in which case an accumulation of errors of clock-rates may lead to an error of more than a second in the time-signal."

Letter from Mr. G. P. Bond to Mr. Carrington.

Will you have the kindness to communicate to the Astronomical Society the following elements of the new Comet, which was discovered independently at three places in the United States, viz., Ann Arbor, April 23d; Washington and Cambridge, April 27th, by Messrs. Watson, Ferguson, and Tuttle, respectively.

Observatory of Harvard College,
Cambridge, Mass., May 5, 1859.

Elements, by T. H. Safford.

T	1859, May 29^{d}·0030	Washington M.S.T.
Log q	9·30403	
	° ′	
ω	281 59·66	Equinox, April 27th
Ω	357 41·77	
i	94 52·78	

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By A. Hall.

T   1859, May $29^{\mathrm{d}}\cdot 0077$ Washington M.S.T.
Log q 9·303310
ω $281^\circ\ 58'\ 10''\cdot 7$ or $\pi = 75^\circ\ 9'\ 46''\cdot 1$
☊ $357\ \ 7\ \ 56\cdot 8$
i $95\ \ 50\ \ 56\cdot 8$ $\iota = 84\ \ 9\ \ 3\cdot 2$
Motion Retrograde.

The comet will probably be visible after its perihelion passage.

On the Stability of the Motion of Saturn's Rings; an Essay which obtained the Adams' Prize for the Year 1856, *in the University of Cambridge.* By J. Clerk Maxwell, M.A. late Fellow of Trinity College, Cambridge: Professor of Natural Philosophy in the Marischal College and University of Aberdeen. Cambridge: Macmillan and Co., 1859.

The following abstract of an important paper has been kindly drawn up by the Astronomer Royal for the use of the readers of the *Monthly Notices:*—

The remarkable essay of which we have given the title was published in the beginning of the present year. The subject of it is so interesting, the difficulty of treating it in its utmost generality so considerable, and the results at which the author arrives so curious, that we think a brief abstract of it will be acceptable to the readers of the *Monthly Notices.* We shall commence with a very imperfect reference to preceding investigations on the same subject.

The first to which we shall allude is Laplace's, in the *Mécanique Céleste,* livre III. chapitre vi. Laplace considers a ring of *Saturn* as a solid, the form of which is investigated as if it were fluid (a mode of treatment whose result, in respect of the form of equilibrium, is evidently good for a solid), and finds, that if the breadth and thickness of the ring are very small in comparison with its distance from *Saturn,* its section may be an ellipse; and it appears that the formula for the proportion of the axes of the ellipse admits of its being considerably flattened. But Laplace rather inclines to the supposition that there are several rings, each existing by its own proper theory. Then remarking on the appearances noticed by some observers which seem to indicate irregularities in the rings, he adds, "J'ajoute que ces inégalités sont nécessaires pour maintenir l'anneau en équilibre autour de *Saturne,*" and gives an in-

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